08-01-05 IDW AF/3683

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Application Number	10/775,881
Filing Date	02/10/2004
First Named Inventor	Luc Lemmens, et al.
Art Unit	3683
Examiner Name	Christopher P. Schwartz
Total Number of Pages in This Submission	
Attorney Docket Number	1316N-001663

ENCLOSURES ***(check all that apply)***

- ☒ Fee Transmittal Form
  - ☒ Fee Attached
- ☐ Amendment / Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Response to Missing Parts/ Incomplete Application
  - ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
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- ☒ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
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PTO/SB/17 (12-04v2)
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Effective on 12/08/2004.
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).

FEE TRANSMITTAL for FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT	($) 500

Complete if Known	
Application Number	10/775,881
Filing Date	02/10/2004
First Named Inventor	Luc Lemmens, et al.
Examiner Name	Christopher P. Schwartz
Art Unit	3683
Attorney Docket No.	1316N-001663

METHOD OF PAYMENT (check all that apply)

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FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

	FILING FEES		SEARCH FEES		EXAMINATION FEES		
		Small Entity		Small Entity		Small Entity	
Application Type	Fee ($)	Fee($)	Fee($)	Fee($)	Fee($)	Fee($)	Fees Paid ($)
Utility	300	150	500	250	200	100	____
Design	200	100	100	50	130	65	____
Plant	200	100	300	150	160	80	____
Reissue	300	150	500	250	600	300	____
Provisional	200	100	0	0	0	0	____

2. EXCESS CLAIM FEES

Fee Description	Fee ($)	Small Entity Fee ($)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

Total Claims	Extra Claims	Fee($)	Fee Paid ($)
____ -20 or HP=	0	x ____	= 0

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee($)	Fee Paid ($)
____ - 3 or HP=	0	x ____	= 0

HP = highest number of independent claims paid for, if greater than 3.

Multiple Dependent Claims	
Fee ($)	Fee Paid ($)
____	____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee ($)	Fee Paid ($)
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4. OTHER FEE(S)

	Fees Paid ($)
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Signature		Registration No. (Attorney/Agent) 34,007	Telephone (248) 641-1600
Name (Print/Type)	Michael J. Schmidt		Date July 29, 2005

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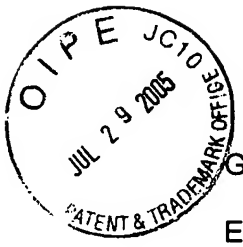

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Group Art Unit:	3683	
Examiner:	Christopher P. Schwartz	**APPEAL BRIEF**
Appellant:	Luc Lemmens, et al.	**Appeal No.**
Serial No.:	10/775,881	
Filed:	February 10, 2004	
For:	AIR PRESSURE PROPORTIONAL DAMPER FOR SHOCK ABSORBER	
Attorney Docket:	1316N-001663	

Michael J. Schmidt

For Appellant

APPELLANTS' APPEAL BRIEF

08/02/2005 EAREGAY1 00000079 10775881

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REAL PARTY OF INTEREST

Tenneco Automotive Operating Company, Inc. is the real party of interest, being the Assignee of the present application as recorded on Reel 014984, frame 0936 at the United States Patent and Trademark Office.

RELATED APPEALS AND INTERFERENCES

To the best of Appellants' knowledge, no other appeals or interferences are pending which will directly affect, be directly affected by or have a bearing on the Boards decision in the present pending appeal.

STATUS OF THE CLAIMS

Claims 1-3, 5 and 6 are rejected under 35 U.S.C. § 102(b) as being anticipated by Vermolen, et al.

Claim 4 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Vermolen, et al. in view of de Molina.

Claims 7-17 are allowed.

STATUS OF THE AMENDMENTS

Appellants filed a response to the Final Office Action mailed January 25, 2005 on April 21, 2005. The claims were not amended in this response.

The Examiner issued an Advisory Action on May 9, 2005 indicating that the April 21, 2005 response would be entered for purposes of Appeal. The Examiner further indicated that the request for consideration had been considered but it did not, in his opinion, place the application in condition for allowance.

SUMMARY OF CLAIMED SUBJECT MATTER

Referring primarily to Figures 2, 4 and 5, an air pressure proportional damper 10 is illustrated. Damper 10 defines a first chamber 32, 34 (upper and lower working chambers) and a second chamber 38 (reserve chamber). A piston rod 26 is slidingly disposed within the first chamber. A piston 28 is attached to the piston rod 26 with piston 26 slidingly engaging the walls of the first chamber.

A valve 22b disposed between the first chamber and the second chamber to regulate the fluid flow through a passage (126 to 132 under 52b) extending between the two chambers. A membrane 52b is movable between a first position where fluid passage (126 to 132 under 52b) is open and a second position where fluid passage (126-132 under 52b) is closed. The membrane 52b defines an aperture 130 to allow a specified amount of fluid flow between the two chambers when membrane 52b is in its second or closed position.

A pressure signal is supplied from an air spring 12 (Figure 1) to valve 22b. Valve 22b regulates fluid flow between the two chambers proportional to the pressure signal.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Appellants request review of the rejection of Claims 1-3, 5 and 6 under 35 U.S.C. § 102(b) as being anticipated by Vermolen, et al.

In the January 25, 2005 Office Action, the Examiner rejected Claims 1-6 under 35 U.S.C. § 112, first paragraph. Appellants believe the response filed April 21, 2005 overcame this rejection since it was not mentioned in the May 9, 2005 Advisory Action.

Regarding the 35 U.S.C. § 103 rejection over Vermolen, et al. in view of de Molina for Claim 4, Appellants believe the review of the 35 U.S.C. § 102(b) rejection above will apply to this rejection also since Claim 4 is a dependent claim depending from Claim 3.

ARGUMENT

The Examiner has rejected Claims 1-3, 5 and 6 under 35 U.S.C. § 102(b) as being anticipated by Vermolen, et al. Claim 1 is the only independent claim in this group and the following arguments are based on the invention detailed in Claim 1.

As defined by the Examiner, Vermolen, et al. discloses a container having first and second chambers 36, 40, a piston rod 44, a piston 38, a valve 60 with an aperture 106 or 98, a pressure signal supplied from an air spring with the valve functioning as claimed.

The Examiner has identified most of the limitations of Claim 1 except that the Examiner has failed to disclose where in Vermolen, et al. the membrane defines an aperture to allow a specified amount of fluid flow between the two chambers when the membrane is in its second position where the fluid passage between the two chambers is closed.

Using the Examiner's definition of the elements, the membrane must be defined as shim disc 78 since shim disc 78 defines aperture 106. Shim disc 78 must therefore be capable of opening and closing the fluid passage, restriction 108, extending between the two chambers. Thus, fluid flows from the working chamber 36, through tube 62, into first aperture 92, through aperture 98, through restriction 108 and into annular chamber 102 which leads to second aperture 94 which is open to the second chamber, reservoir 48.

When shim disc 78 closes the fluid passage or restriction 108, as required by Claim 1, fluid can flow from the working chamber 36, through tube 62, into first

aperture 92 and through aperture 98. The fluid flow is prohibited from flowing through restriction 108 because of the closing of restriction 108 by shim disc 78. As illustrated in Figure 3, aperture 106 is aligned with aperture 98 and thus, fluid can flow through aperture 106 into chamber 112 and even into chamber 110. There is nothing disclosed in Vermolen, et al. which defines aperture 106 as being open to anything but aperture 98 as illustrated in Figure 3. In order for fluid to flow through aperture 106, into chamber 112 and finally out to annular chamber 102 which communicates with reservoir 48, there must be an aperture which will allow a specified amount of fluid flow between the two chambers when the fluid passage, restriction 108, is closed. Vermolen, et al. does not disclose, teach or even suggest this bleed flow of hydraulic fluid. As shown in Figure 3, aperture 106 is clearly not in communication with annular chamber 102.

In the Advisory Action, the Examiner states that our position on this matter is simply incorrect. His position is that from Figures 1 and 3 of Vermolen, et al. it can be seen that these chambers 42 and 40 are clearly capable of communication through channels 92, 94 via channel 98. The Examiner has failed to include the fact that this flow must occur when channel 98 is closed by shim disc 78. The Examiner defines the "specified amount of fluid flow" as a small amount (as per Appellants' remarks under the § 112 first rejection) is clearly capable of passing between disc 78 and seat 96 through aperture 106 from chamber 110 or 112.

The area between disc 78 and seat 96 is defined as restriction 108 which is the equivalent of the fluid passage in the present invention. When disc 78

closes restriction 108 fluid flow is prevented between disc 78 and seat 96 since restriction 108 is closed. Thus, the only way for fluid to flow from aperture 98 to annular chamber 102 would be if aperture 106 was in communication with both aperture 98 and annular chamber 102. Figure 3 of Vermolen, et al. does not support this necessary structure of Claim 1 and nothing within the specification of Vermolen, et al. supports this necessary structure. Figure 3, only discloses aperture 106 as being in communication with aperture 98. Appellants' remarks under the § 112 first rejection were that membrane 52b defines passage 130 which allows fluid to pass from chamber 126 to chamber 132. Vermolen, et al. does not disclose, teach or suggest this passage or its equivalent.

Thus, Appellants believe that Vermolen, et al. does not disclose all of the elements of the claimed invention defined by Claim 1. Specifically, Vermolen, et al. fails to disclose, teach or suggest an aperture to allow a specified amount of fluid flow between the first chamber and the second chamber when the membrane closes the fluid passage.

Appellants invention provides the art with a shock absorber which is controlled by a valve and the shock absorber includes a bleed flow of a specified amount even when the fluid passage is closed. Accordingly, reversal of the final rejection of Claims 1-3, 5 and 6, as well as Claim 4, which ultimately depend from Claim 1, and allowance of these claims is respectfully requested.

Respectfully submitted,

Dated: July 29, 2005

By: _____
Michael J. Schmidt, 34,007

HARNESS, DICKEY & PIERCE, P.L.C.
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MJS/pmg

APPENDIX A

APPENDIX A

PENDING CLAIMS

1. An air pressure proportional damper comprising:

a container having a first chamber and a second chamber;

a piston rod slidingly disposed in the first chamber of the container;

a piston attached to the piston rod, the piston being in sliding engagement with walls of the first chamber;

a valve disposed between the first chamber and the second chamber, the valve regulating fluid flow between the first chamber and the second chamber through a fluid passage;

a membrane movable between a first position where the fluid passage is open and a second position where the fluid passage is closed, the membrane defining an aperture to allow a specified amount of fluid flow between the first chamber and the second chamber when the membrane is in the second position;

a pressure signal supplied from an air spring to the valve;

wherein the valve regulates fluid flow from the first chamber to the second chamber proportional to the pressure signal.

2. The air pressure proportional damper as claimed in Claim 1, further comprising a down tube connecting the first chamber to the valve; and

an outlet connecting the second chamber to the valve, wherein fluid passing from the first chamber to the second chamber passes from the down

tube to the outlet.

3. The air pressure proportional damper as claimed in Claim 2, wherein the membrane is disposed over an end area of the down tube, and

the membrane applies a resistance force over the end area of the down tube proportional to the pressure signal.

4. The air pressure proportional damper as claimed in Claim 3, wherein the membrane comprises a plurality of stacked plates.

5. The air pressure proportional damper as claimed in Claim 1, wherein the first chamber includes an upper working chamber and a lower working chamber, and wherein the second chamber is a reserve chamber.

6. The air pressure proportional damper as claimed in Claim 1, wherein the pressure signal is transmitted to the valve by a hose, the pressure signal being air pressure supplied by the air spring.

7. An air pressure proportional damper comprising:

a first chamber;

a second chamber;

an air adjustment valve, the first chamber fluidly communicating with the second chamber through the air adjustment valve, wherein the air

adjustment valve comprises:

a nipple support supporting a nipple, the nipple having an aperture therethrough, communicating with the first chamber;

a lower membrane having a first side and a second side, the first side of the lower membrane contacting an upper side of the nipple and the aperture;

a plunger supported by a plunger support, a first end of the plunger contacting the second side of the lower membrane;

an upper membrane having a first side and a second side, the first side of the upper membrane contacting a second end of the plunger; and

a hose attachment housing supported by a guiding ring, a space defined by an area between the hose attachment housing, the guiding ring and the second surface of the upper membrane, a spring disposed in the guiding ring that biases the hose attachment housing toward the second side of the membrane;

wherein a second space is defined between the nipple support and the first side of the membrane, the second space communicating with the second chamber.

8. The air pressure proportional damper as claimed in Claim 7, further comprising an air hose attached to the hose attachment housing that supplies air pressure from an air spring into the space.

9. The air pressure proportional damper as claimed in Claim 8, wherein a surface of the hose attachment housing presses against the second side of the second membrane when air pressure supplied from the air spring is below a predetermined value.

10. The air pressure proportional damper as claimed in Claim 8, wherein air pressure supplied from the air spring pressurizes the space to press the upper membrane into the plunge and the plunger against the lower membrane to apply a sealing force to the nipple for restricting fluid flow from the first chamber to the second chamber.

11. An air pressure proportional damper comprising:

a first cylindrical chamber;

a second cylindrical chamber disposed around the first cylindrical chamber;

a piston rod having a valve positioned at an end of the piston rod, the valve and the piston rod being in sliding engagement with walls of the first cylindrical chamber, an area in the first cylindrical chamber proximate the rod defining an upper working chamber, an area on a side of the valve in the cylindrical chamber distal from the rod defining a lower working chamber;

an air adjustment valve positioned at one end of the first cylindrical chamber and the second cylindrical chamber;

a down tube fluidly connecting the first cylindrical chamber to one

side of the air adjustment valve, wherein the air adjustment valve regulates flow from the down tube to the second chamber;

wherein the air adjustment valve comprises:

an air adjustment valve main body;

an air adjustment valve lower main body attached to the air adjustment valve main body;

a membrane held in position between the air adjustment valve lower main body and the air adjustment valve main body;

a passage formed in the air adjustment valve main body to communicate air pressure to a top side of the membrane;

a sliding valve slidingly supported by the air adjustment valve lower main body, one end of the sliding valve positioned against a lower side of the membrane, an opposite side of the sliding valve having a valve seat that closes the down tube from passing fluid from the down tube to the second chamber;

a spring positioned between the valve seat and the sliding valve, the spring biasing the sliding valve against the membrane, the spring biasing the valve seat to a closed position.

12. The air pressure proportional damper as claimed in Claim 11, further comprising a hose fluidly connecting an air spring to the upper surface of the membrane.

13. The air pressure proportional damper as claimed in Claim 11, further comprising travel stops affixed to the air adjustment valve lower main body, the travel stops riding in a groove in the sliding valve, the groove being a longer length than the travel stops to set a fixed sliding distance of the sliding valve with respect to the air adjustment valve lower main body.

14. The air pressure proportional damper as claimed in Claim 12, wherein air pressure from the air spring presses the membrane to move the sliding valve in a direction compressing the spring, the spring force pressing the valve seat to apply resistance to flow of fluid from the down tube to the second chamber.

15. The air pressure proportional damper as claimed in Claim 11, wherein an end of the sliding valve proximate the valve seat has a groove therein, the groove allowing a minimal flow of fluid from the down tube to the second chamber.

16. The air pressure proportional damper as claimed in Claim 11, further comprising a threaded clamp having an L-shaped portion at a first end and a threaded portion at a second end, the second end threaded to the air adjustment valve lower main body, the L-shaped first end engaging the air adjustment valve main body to clamp the air adjustment valve main body to the air adjustment valve lower main body.

17. The air pressure proportional damper as claimed in Claim 16, wherein the membrane is clamped between the air adjustment valve main body and the air adjustment valve lower main body.

APPENDIX B

Evidence: None

APPENDIX C

Related Proceedings: None